THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently Amended) A processing method to be implemented by a computer, comprising the steps of:

obtaining three-dimensional shape data representing a three-dimensional shape model ~~of an actual object, a portion of original three-dimensional shape data being omitted requiring that a portion of the three-dimensional shape model corresponding to the omitted original three-dimensional shape data be corrected~~;

receiving a designation of an omitted ~~the~~ portion of the three-dimensional shape model, the omitted portion being included in the obtained three-dimensional shape data and being a portion where original three-dimensional shape data representing the actual object is omitted ~~corresponding to the omitted original three-dimensional shape data required to be corrected~~;

displaying the three-dimensional shape model and a curved surface model to be joined to the designated omitted portion ~~of the three-dimensional shape model~~, a shape of the curved surface model being defined by one parameter;

modifying a shape of the curved surface model so as to fit to ~~be joined to the designated portion of~~ the three-dimensional shape model by changing the parameter value ~~according to an alteration of a parameter, with regard to the shape of the surface~~; and

displaying ~~re-displaying~~ the modified <u>curved</u> surface <u>model with conforming to</u> <u>the omitted portion of the three-dimensional shape model</u> ~~in response to the reception of~~ ~~alteration~~.

2. (Original) The method according to claim 1, wherein the surface is displayed on the designated portion together with the three-dimensional shape model.

3. (Original) The method according to claim 1, wherein the alteration of a parameter is executed by a manual operation of a user and the altered parameter is applied to a modification in the modifying step.

4. (Original) The method according to claim 1, wherein the alteration of a parameter is performed manually by a single operation of a user for fixing the parameter to be applied to a modification in the modifying step.

5. (Original) The method according to claim 1, wherein the shape of the surface corresponds to a shape of the designated portion with regard to any altered parameter.

6. (Original) The method according to claim 1, wherein the shape of the surface is determined based on a data which represents a periphery of the designated portion in the three-dimensional shape model.

7. (Original) The method according to claim 1, wherein the surface contains a plurality of points having a fixed position with reference to the X-axis direction and Y-axis direction, and

the modifying step includes modifying a position with reference to the Z-axis direction of at least one of the plurality of points based on the altered parameter.

8. (Presently Amended) The method according to claim 7, wherein the modifying step includes determining a position with reference to the Z-axis direction of at least one of the plurality of points so as to minimize a sum up to a second order differentiation among the plurality of points on the boundary condition of three-dimensional shape data of a periphery of the designated portion.

9. (Original) The method according to claim 8, wherein a first order differential coefficient and a second order differential coefficient of the second order differentiation are positive numbers and a sum of them is equal to 1, and the parameter is one of the first order differential coefficient on the second order differential coefficient.

10. (Currently Amended) A processing method of a three-dimensional shape data, comprising the steps of:

displaying a three-dimensional shape model having a portion of original three-dimensional shape data omitted and a <u>curved</u> surface <u>model</u> to be joined to the three-dimensional shape model at a portion corresponding to where the portion of original

4

three-dimensional shape data has been omitted, a shape of the <u>curved</u> surface <u>model</u>

being defined by at least one parameter;

~~a setting portion for~~ obtaining only one parameter value <u>that is instructed to be</u>

<u>changed by an operator</u>; and

~~a modifying portion for~~ modifying the shape of the displayed <u>curved</u> surface

<u>model</u> based on the obtained parameter value.

11. (Original) The method according to claim 10, wherein, wherein

the obtaining of a parameter value is performed manually by a manual operation

of a user for fixing the parameter value, and by a manual operation of a user for applying

the fixed parameter value onto a modification.

12. (Original) The method according to claim 10, wherein, wherein

the obtaining of a parameter value is performed manually by a manual operation

of a user for fixing the parameter value, and applying the fixed parameter value onto a

modification is not necessary.

13. (Previously Presented) A computer program product comprising a computer

usable medium having encoded thereon a computer readable program for processing a

three-dimensional shape model by making a computer system execute each step

described in claim 1.

14. (Previously Presented) A computer program product comprising a computer usable medium having encoded thereon a computer readable program for processing a three-dimensional shape model by making a computer system execute each step described in claim 2.

15. (Previously Presented) A computer program product comprising a computer usable medium having encoded thereon a computer readable program for processing a three-dimensional shape model by making a computer system execute each step described in claim 3.

16. (Previously Presented) A computer program product comprising a computer usable medium having encoded thereon a computer readable program for processing a three-dimensional shape model by making a computer system execute each step described in claim 4.

17. (Currently Amended) A processing system of a three-dimensional shape data, comprising:

a display device for displaying a three-dimensional shape model having a portion of original three-dimensional shape data omitted and a <u>curved</u> surface <u>model</u> to be joined to the three-dimensional shape model at a portion corresponding to where the portion of original three-dimensional shape data has been omitted, a shape of the <u>curved</u> surface <u>model</u> being defined by at least one parameter;

a setting portion for obtaining only one parameter value <u>that is instructed to be changed by an operator</u>; and

a modifying portion for modifying the shape of the displayed <u>curved</u> surface <u>model</u> based on the obtained parameter value.

18. (Original) The processing system according to claim 17, wherein , wherein

the obtaining of a parameter value is performed manually by a manual operation of a user for fixing the parameter value, and by a manual operation of a user for applying the fixed parameter value onto a modification.

19. (Original) The processing system according to claim 17, wherein , wherein

the obtaining of a parameter value is performed manually by a manual operation of a user for fixing the parameter value, and applying the fixed parameter value onto a modification is not necessary.